

FIG. 1

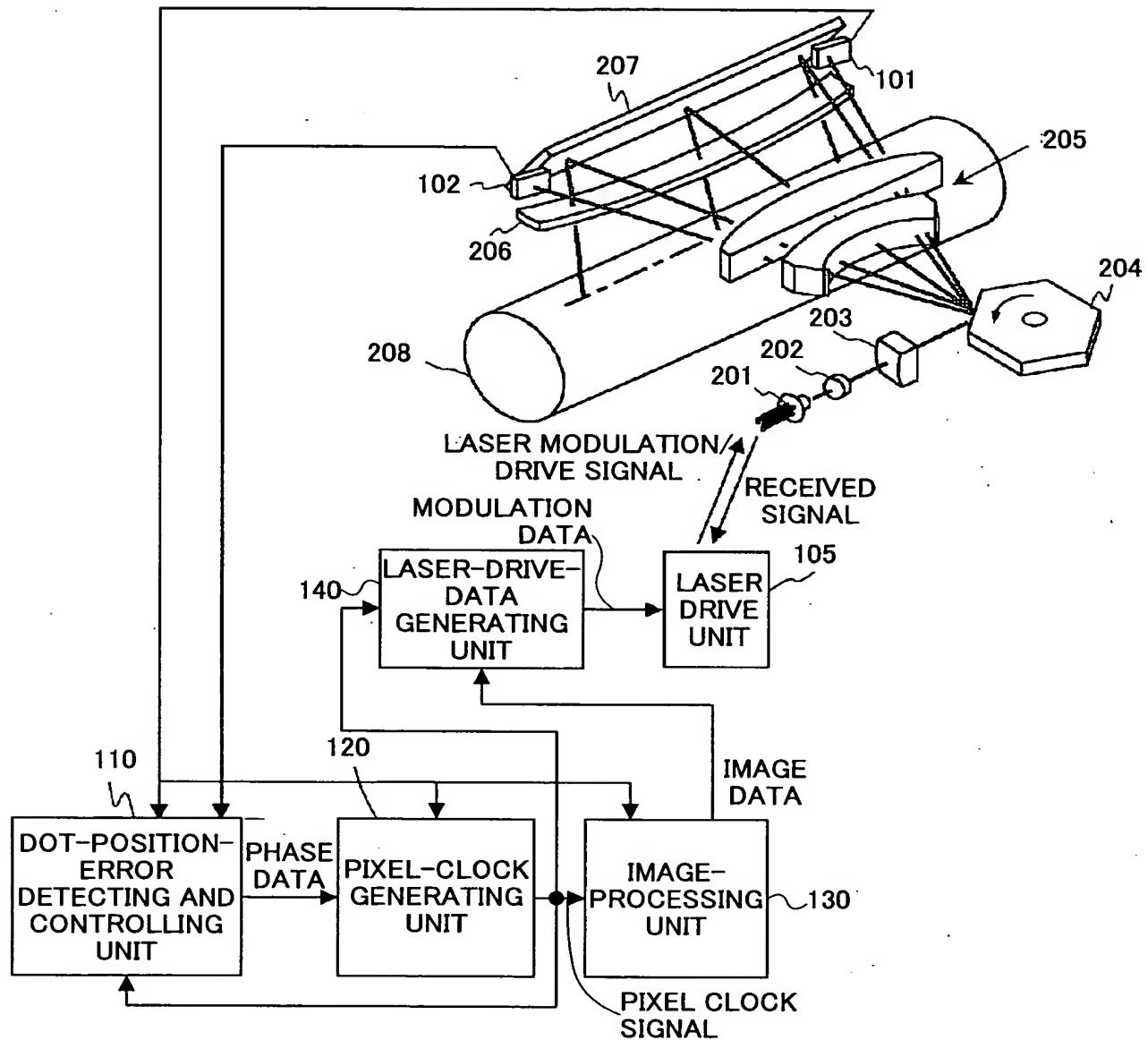


FIG.2

10 PIXEL-CLOCK GENERATING CIRCUIT

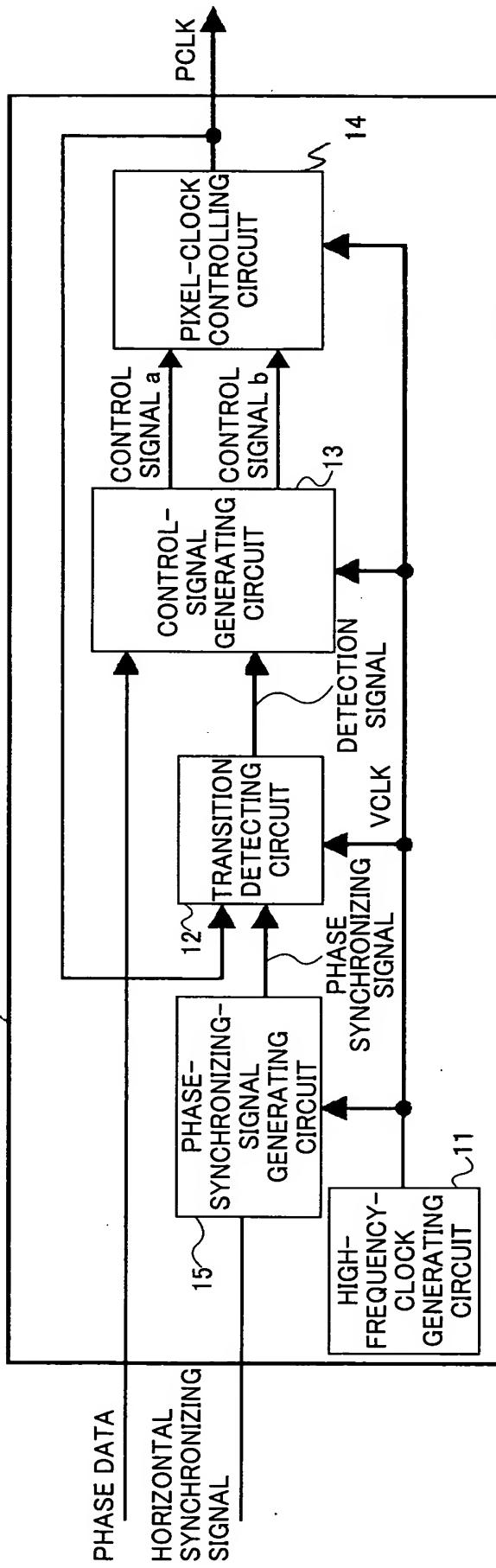


FIG.3

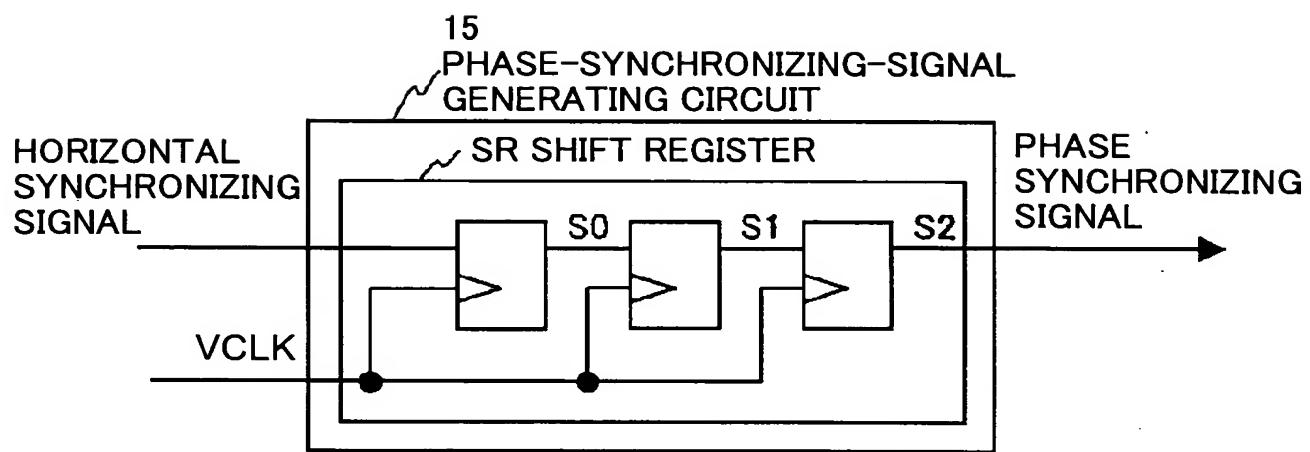


FIG.4

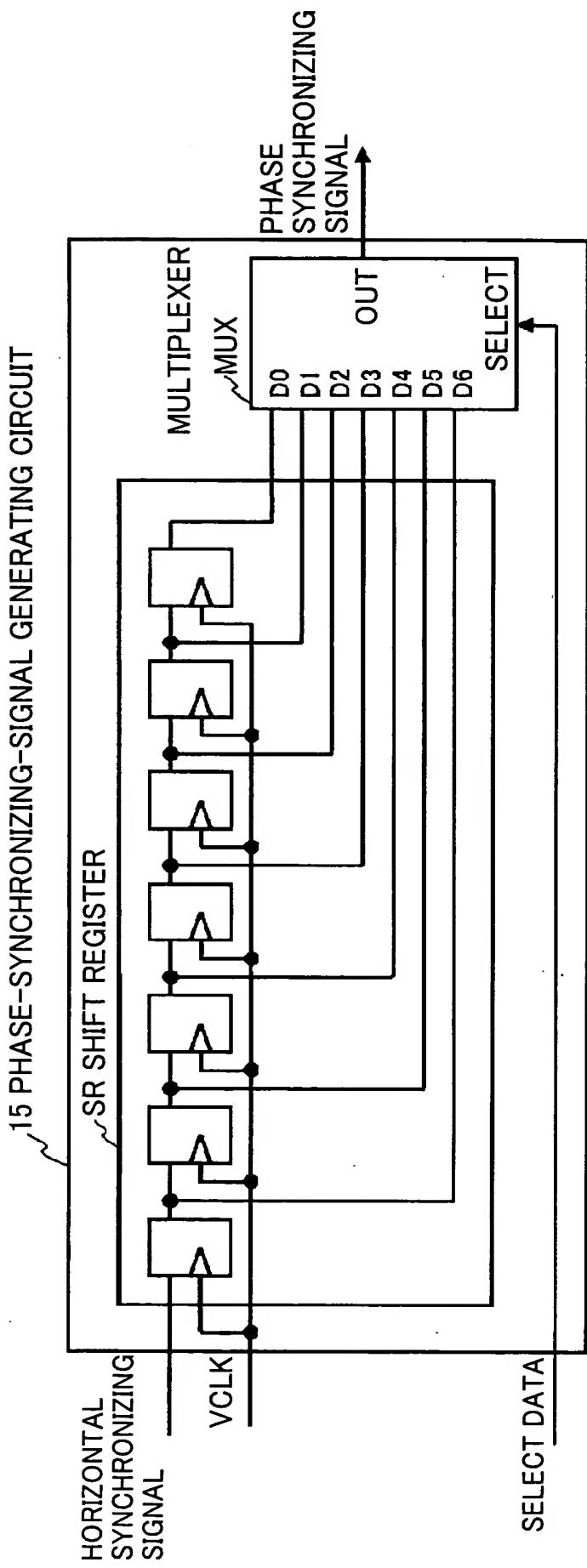


FIG.5

13. CONTROL-SIGNAL GENERATING CIRCUIT

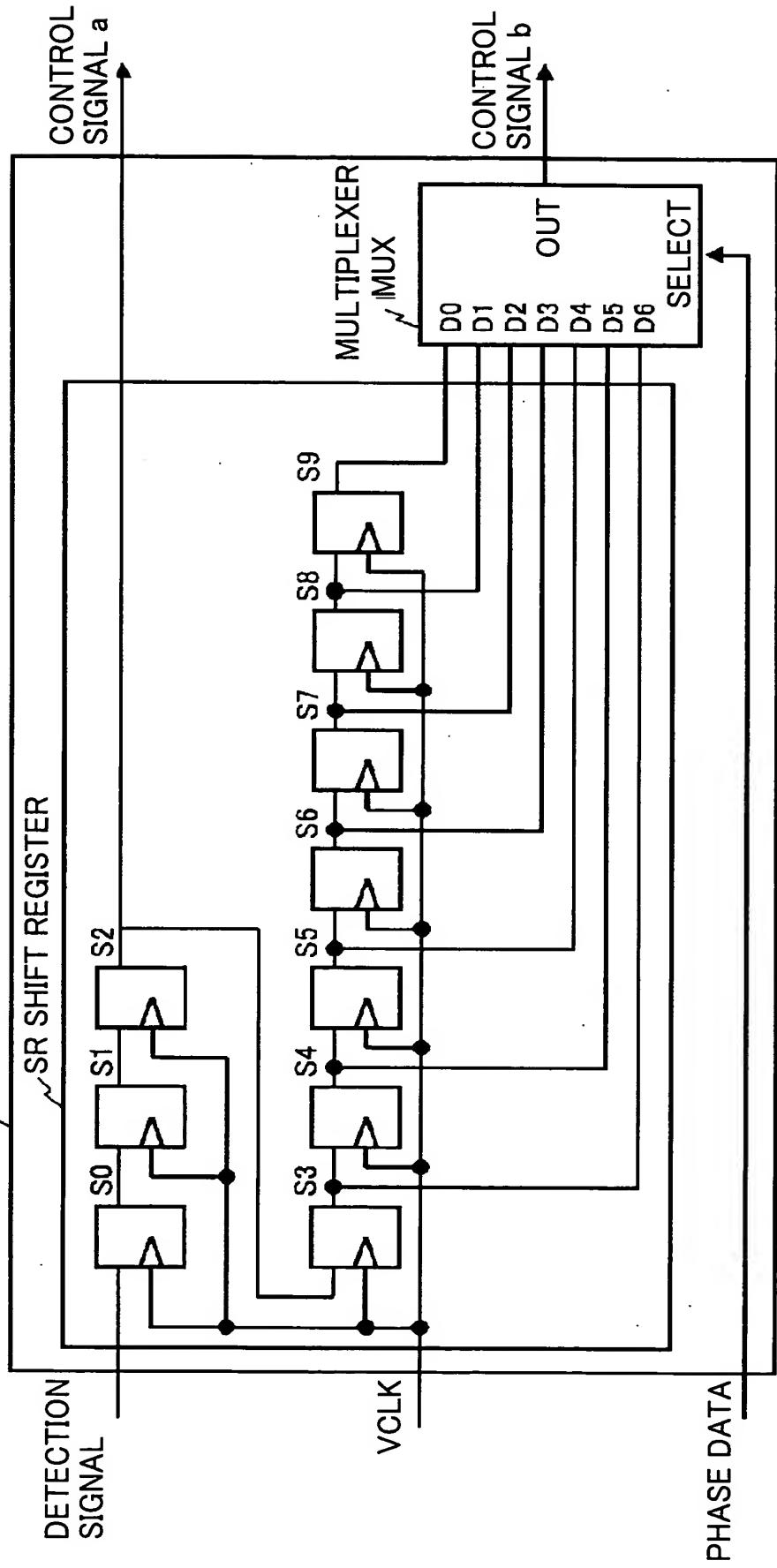


FIG.6

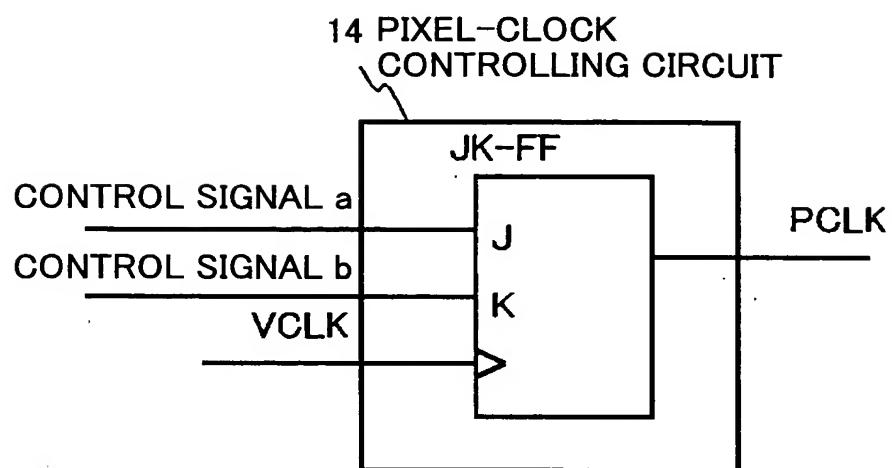


FIG.7

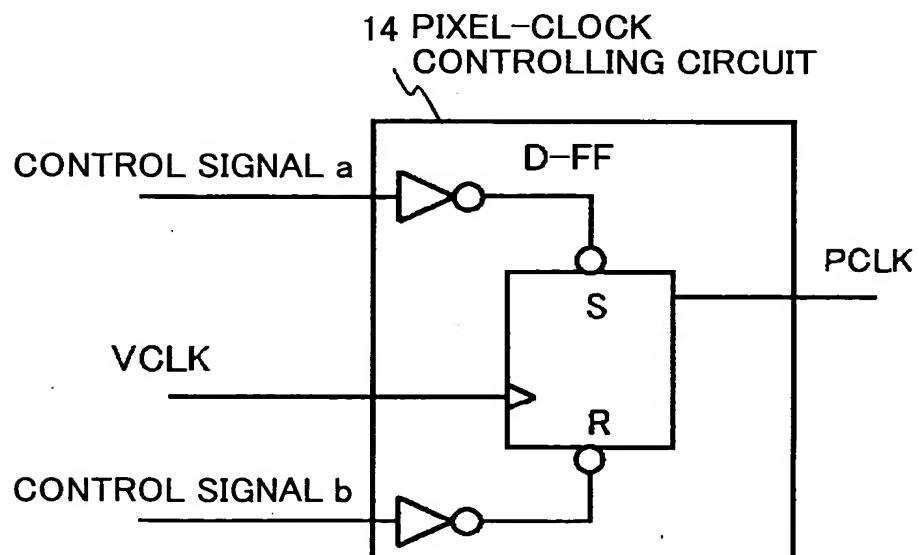


FIG.8A

PHASE SHIFT AMOUNT	PHASE DATA 3bit
3/8 PCLK DELAY	000
2/8 PCLK DELAY	001
1/8 PCLK DELAY	010
0	011
1/8 PCLK ADVANCEMENT	100
2/8 PCLK ADVANCEMENT	101
3/8 PCLK ADVANCEMENT	110

FIG.8B

PHASE DATA 3bit	OUT
000	D0
001	D1
010	D2
011	D3
100	D4
101	D5
110	D6

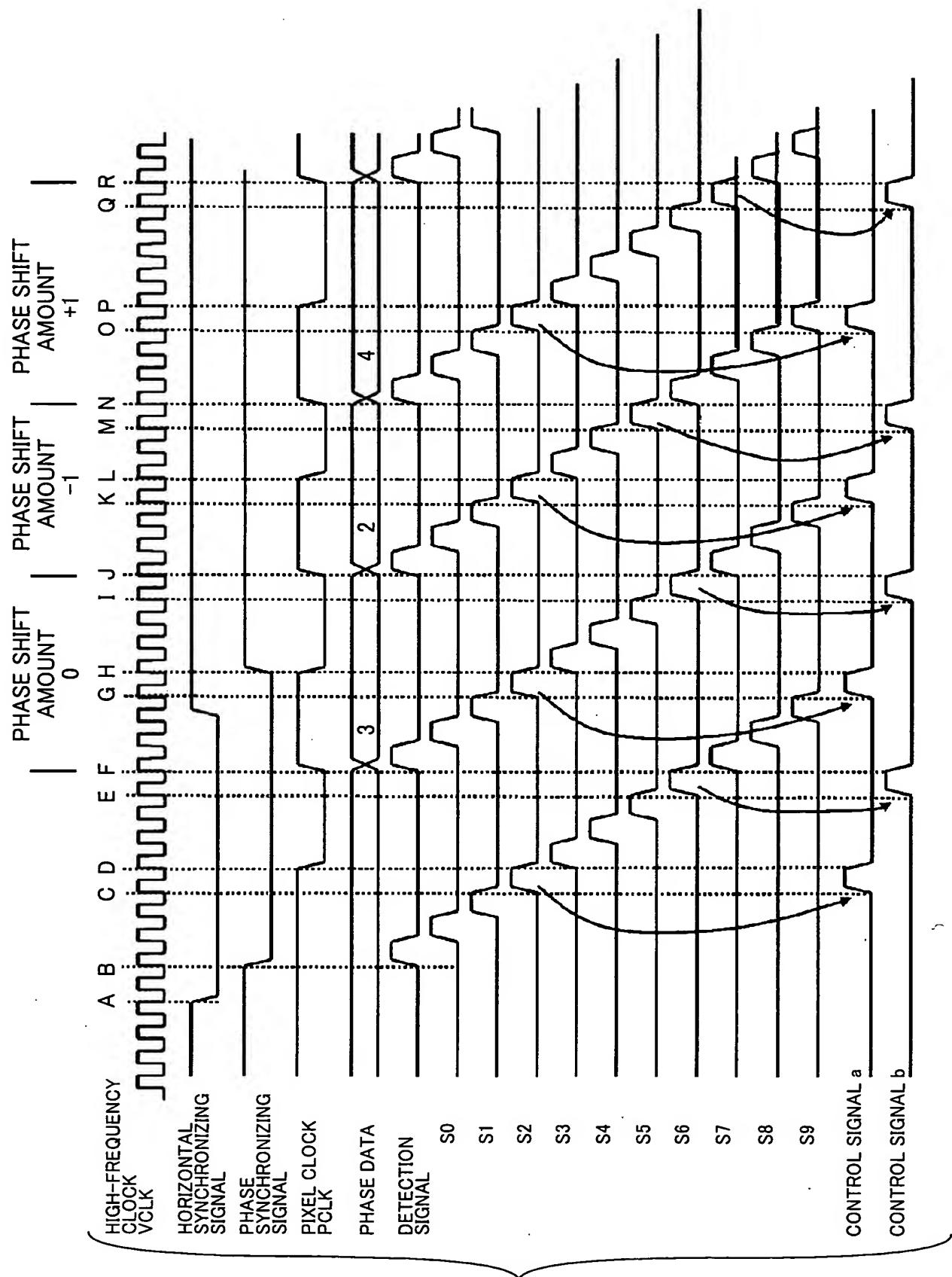


FIG. 9

FIG. 10

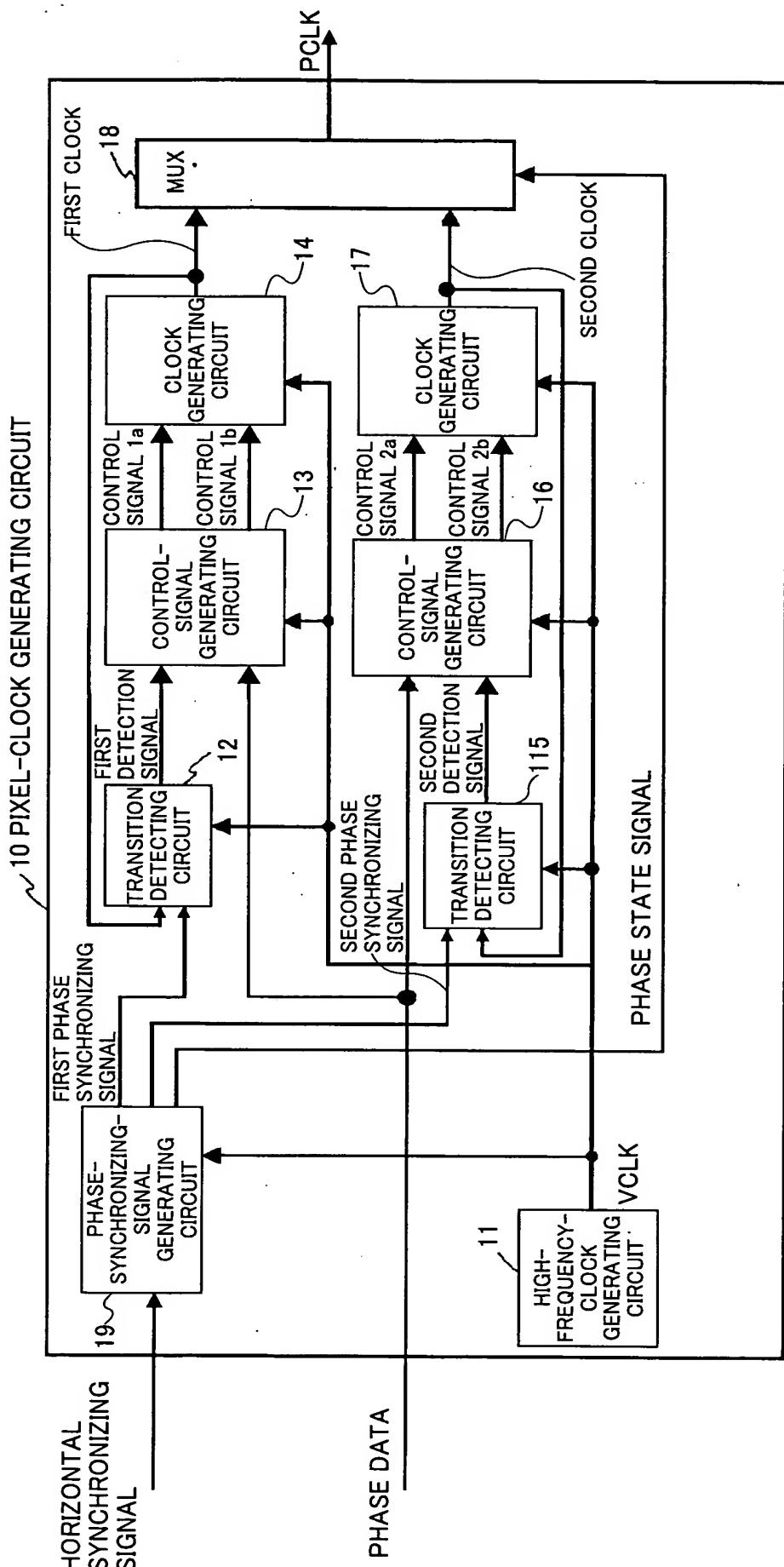
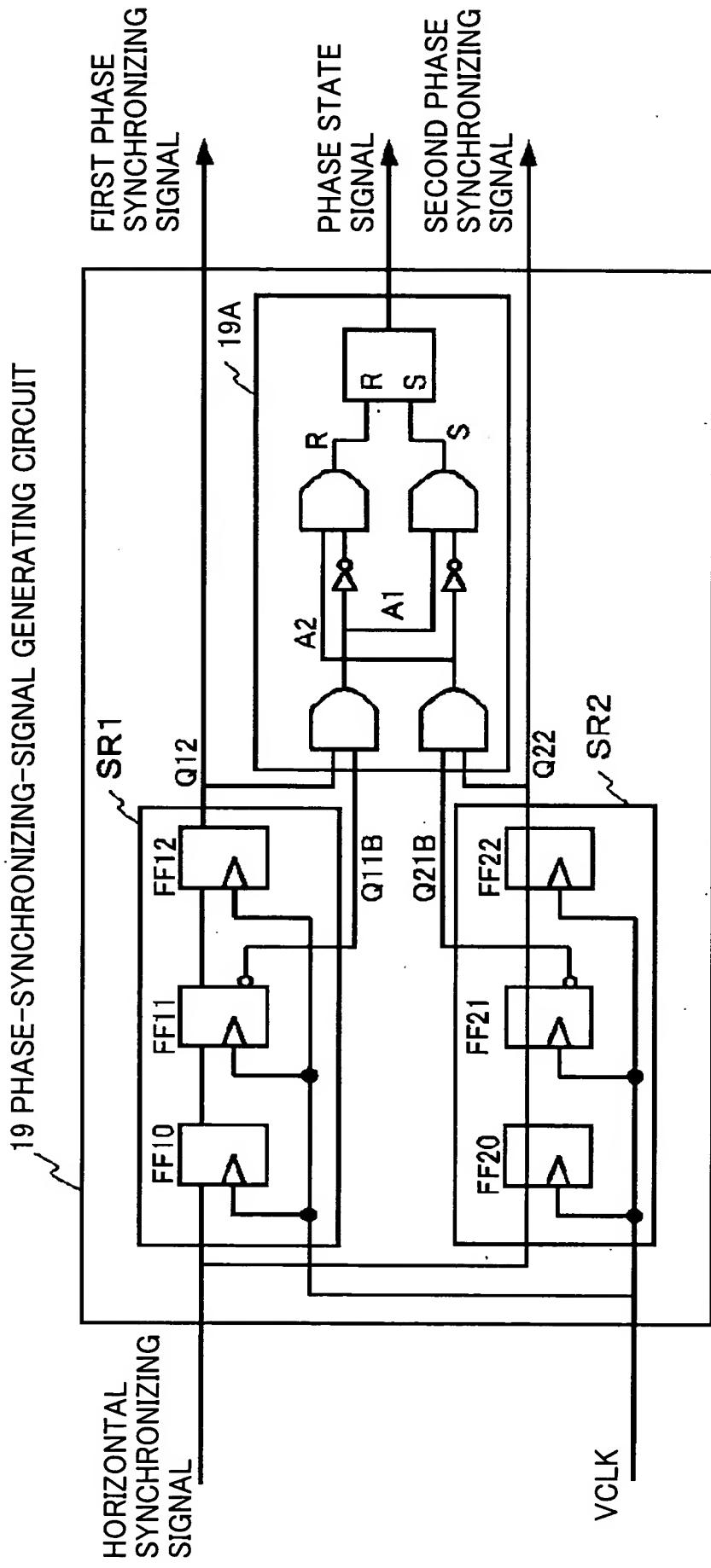


FIG.11



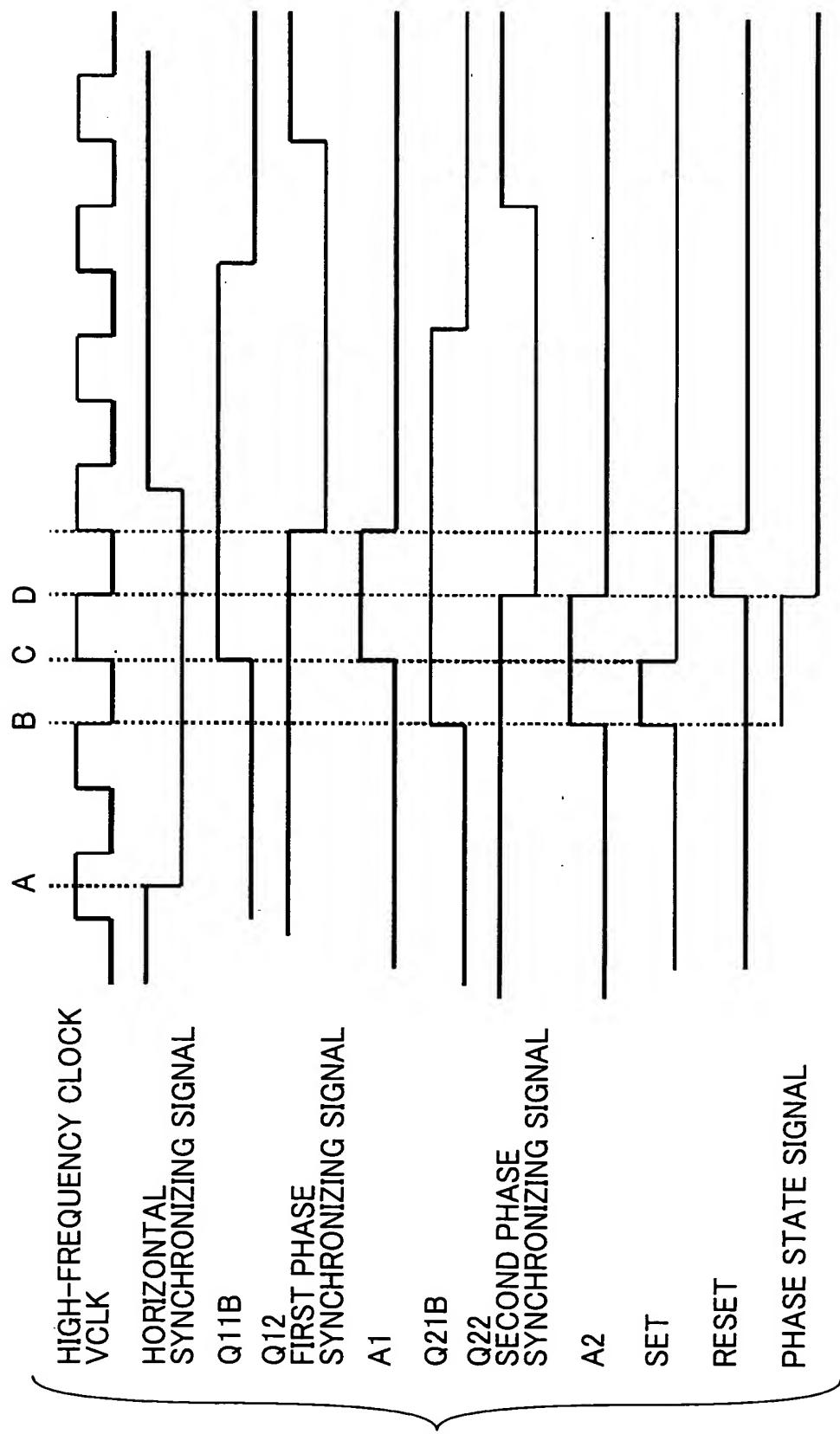


FIG.12

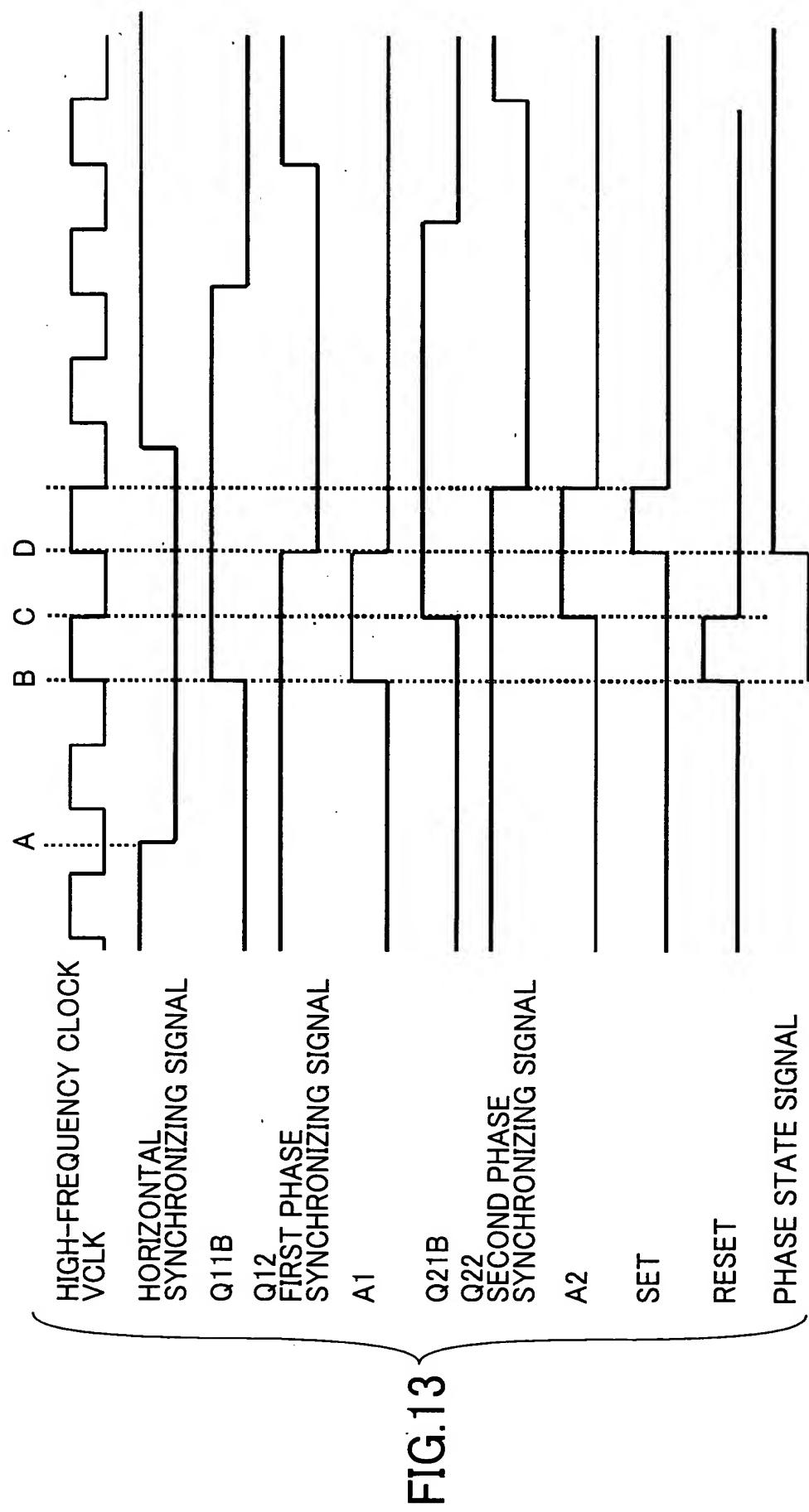
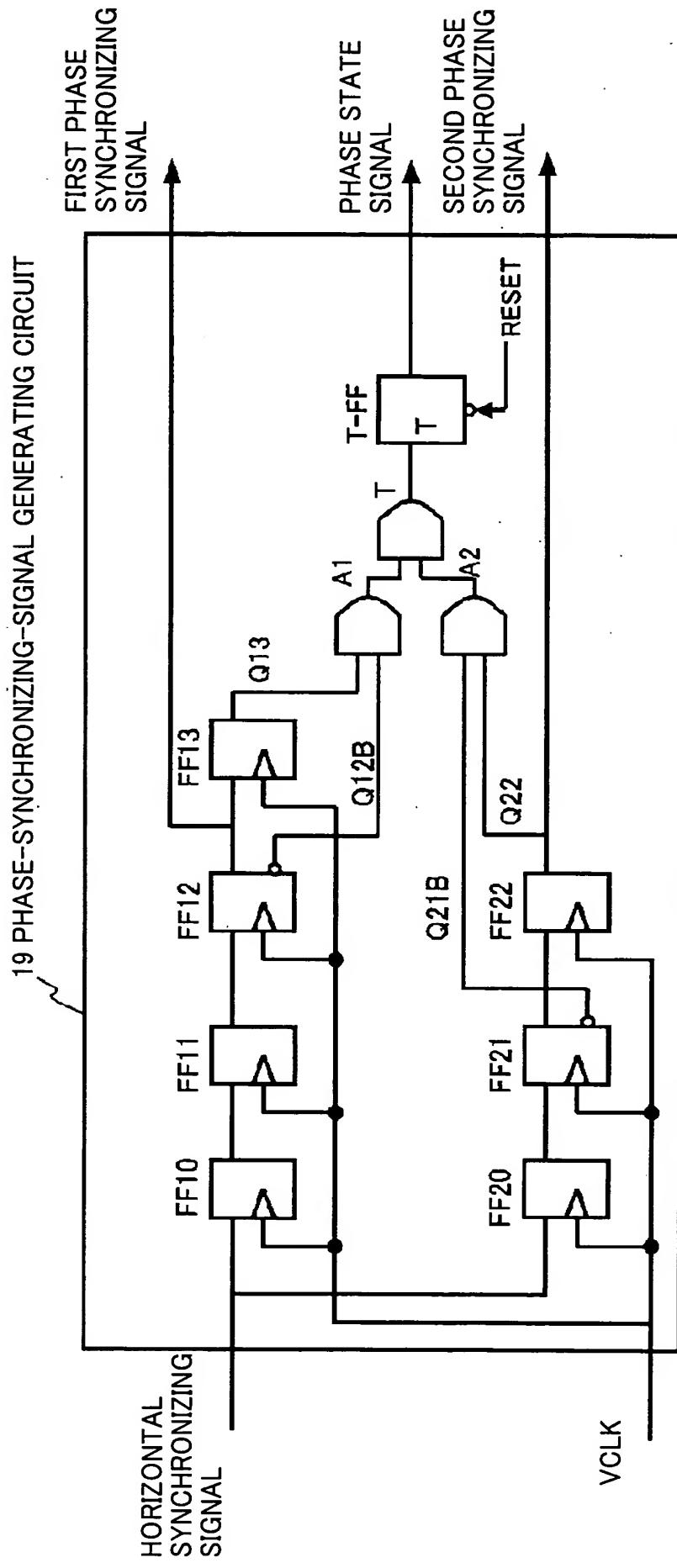
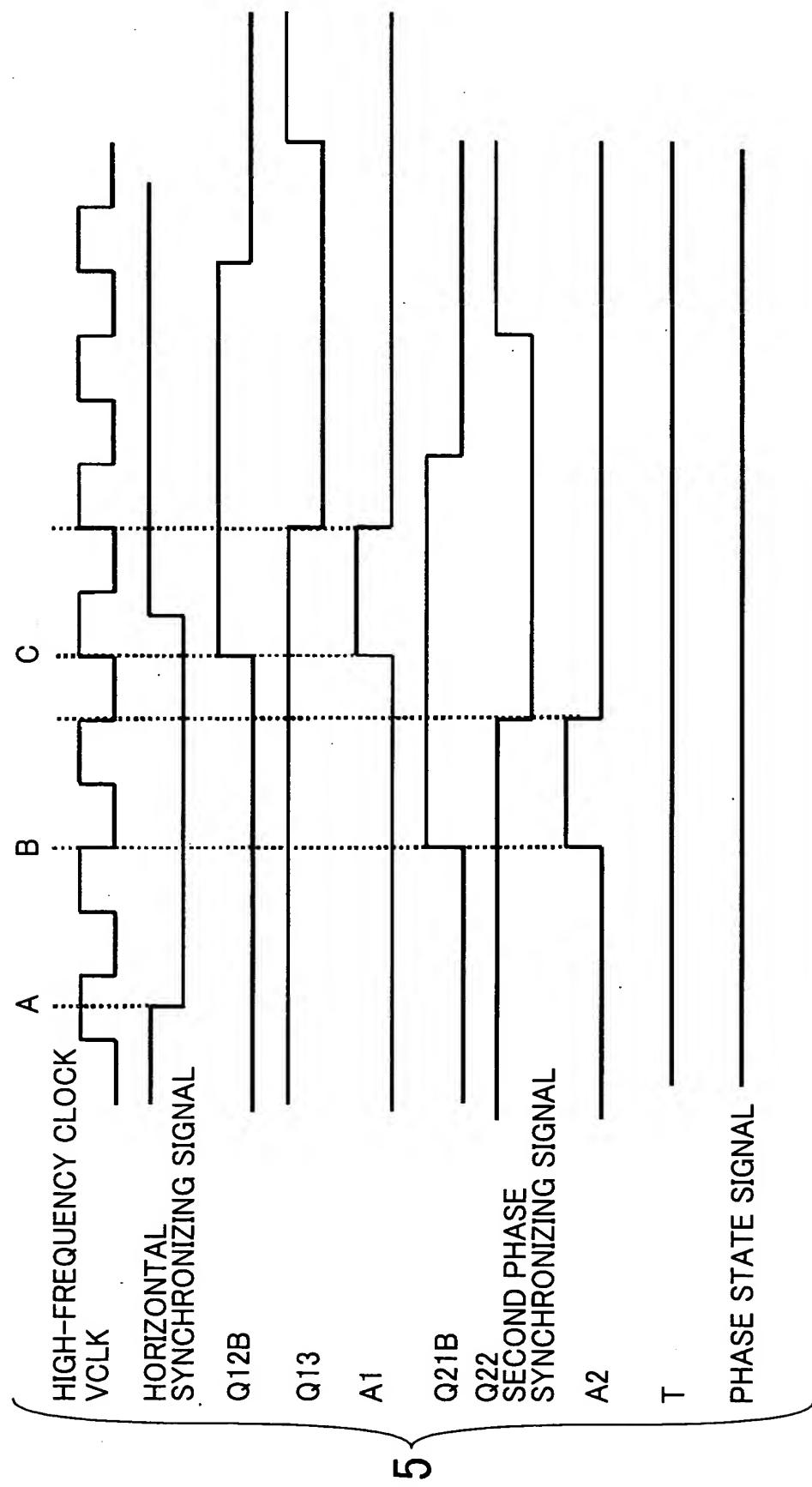


FIG. 14





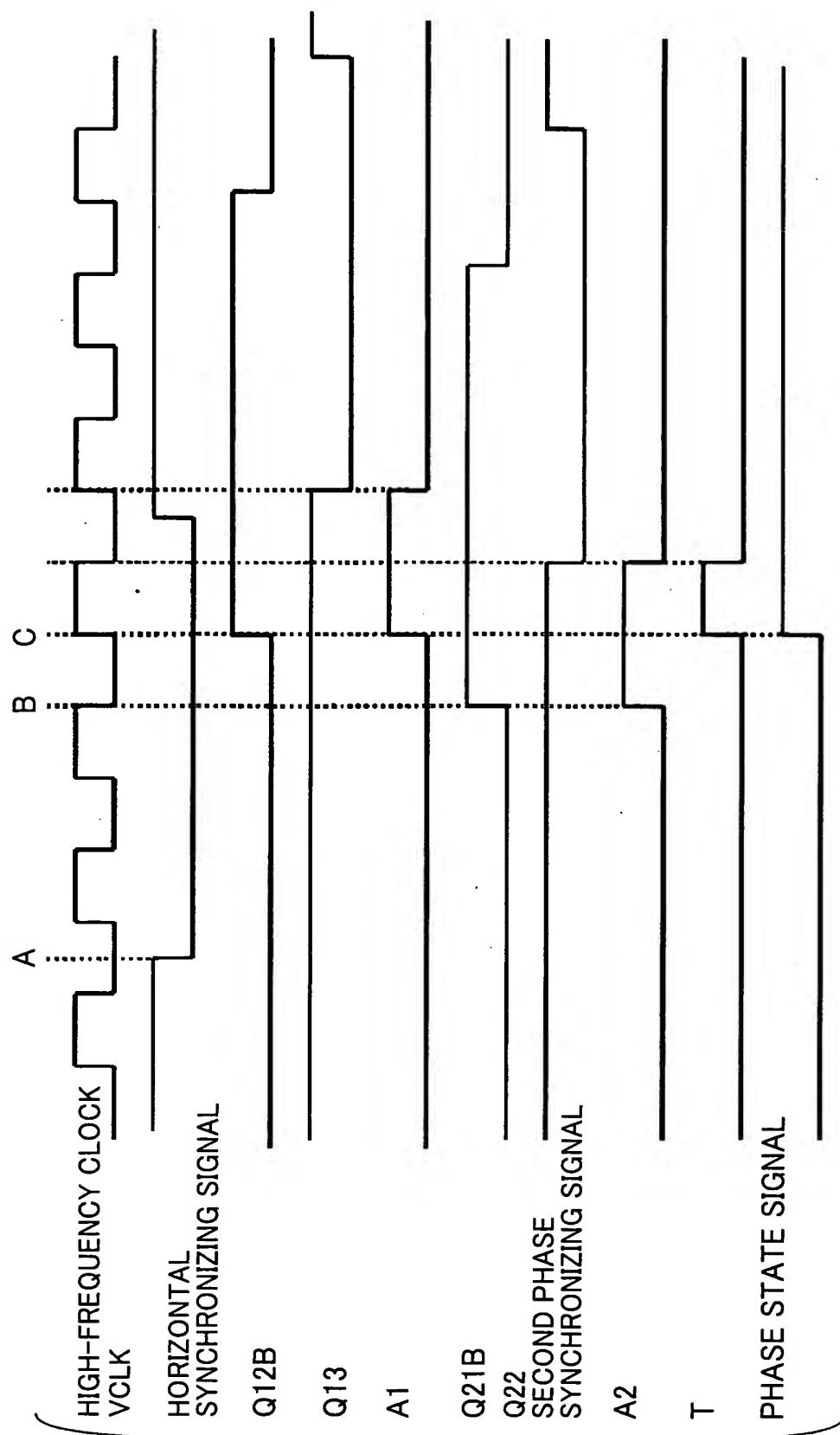


FIG. 16

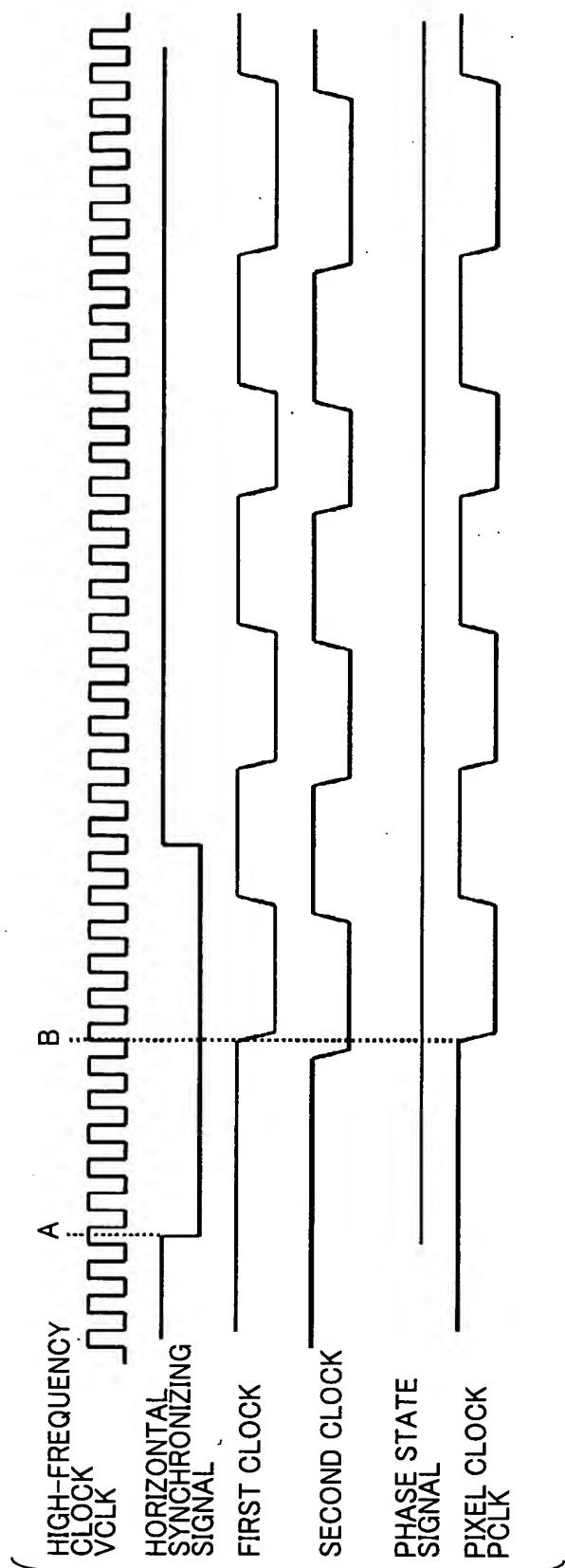


FIG.17

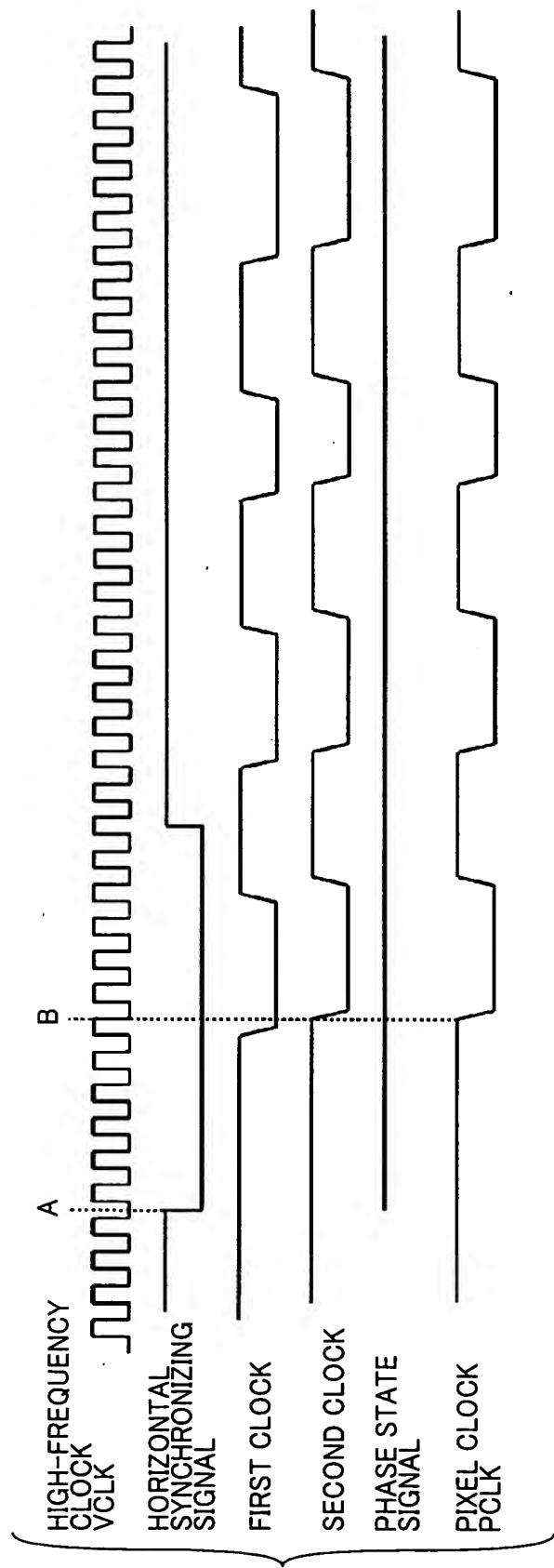


FIG. 18

FIG. 19

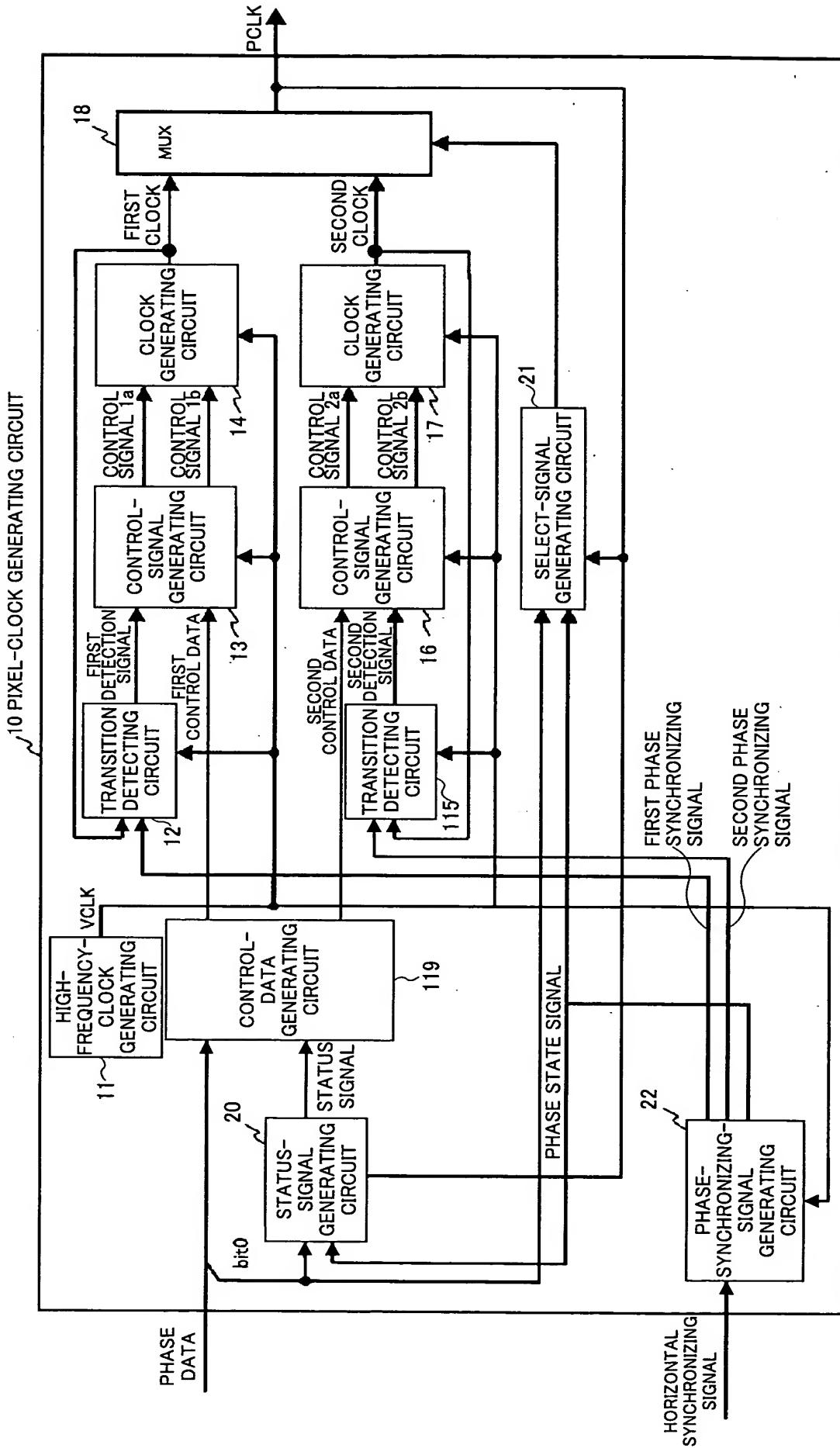


FIG.20

PHASE SHIFT AMOUNT	PHASE DATA 3bit
0	000
1/16 PCLK ADVANCEMENT	001
2/16 PCLK ADVANCEMENT	010
3/16 PCLK ADVANCEMENT	011
1/16 PCLK DELAY	111
2/16 PCLK DELAY	110
3/16 PCLK DELAY	101

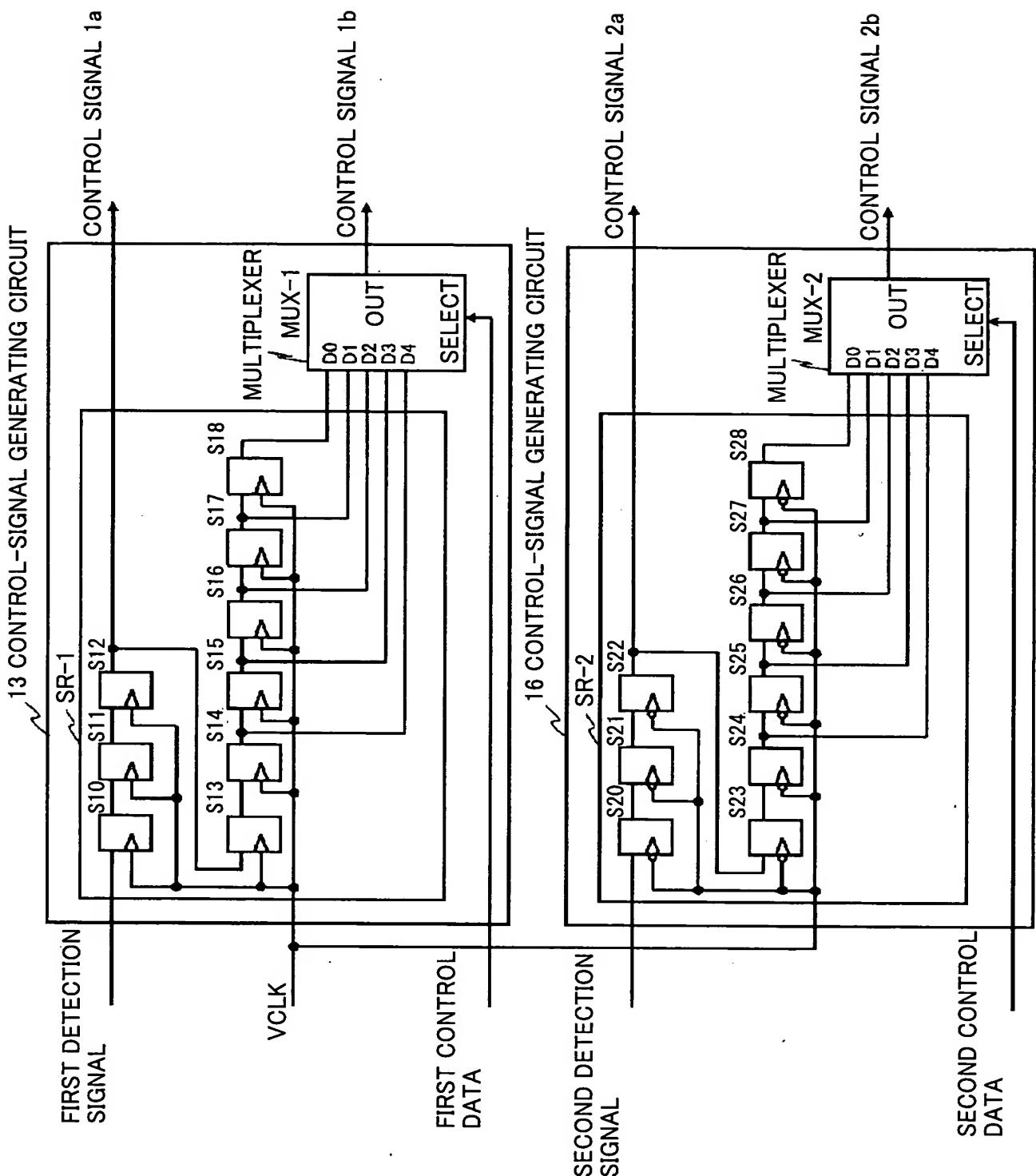


FIG.21

FIG.22

FIRST CONTROL DATA SECOND CONTROL DATA	CONTROL SIGNAL 1b	CONTROL SIGNAL 2b
000	S18	S28
001	S17	S27
010	S16	S26
011	S15	S25
100	S14	S24

FIG.23

PHASE DATA 3bit	STATUS SIGNAL	FIRST CONTROL DATA	SECOND CONTROL DATA
000	0	010	010
000	1	010	010
001	0	010	001
001	1	001	010
010	0	001	001
010	1	001	001
011	0	001	000
011	1	000	001
111	0	011	010
111	1	010	011
110	0	011	011
110	1	011	011
101	0	100	011
101	1	011	100

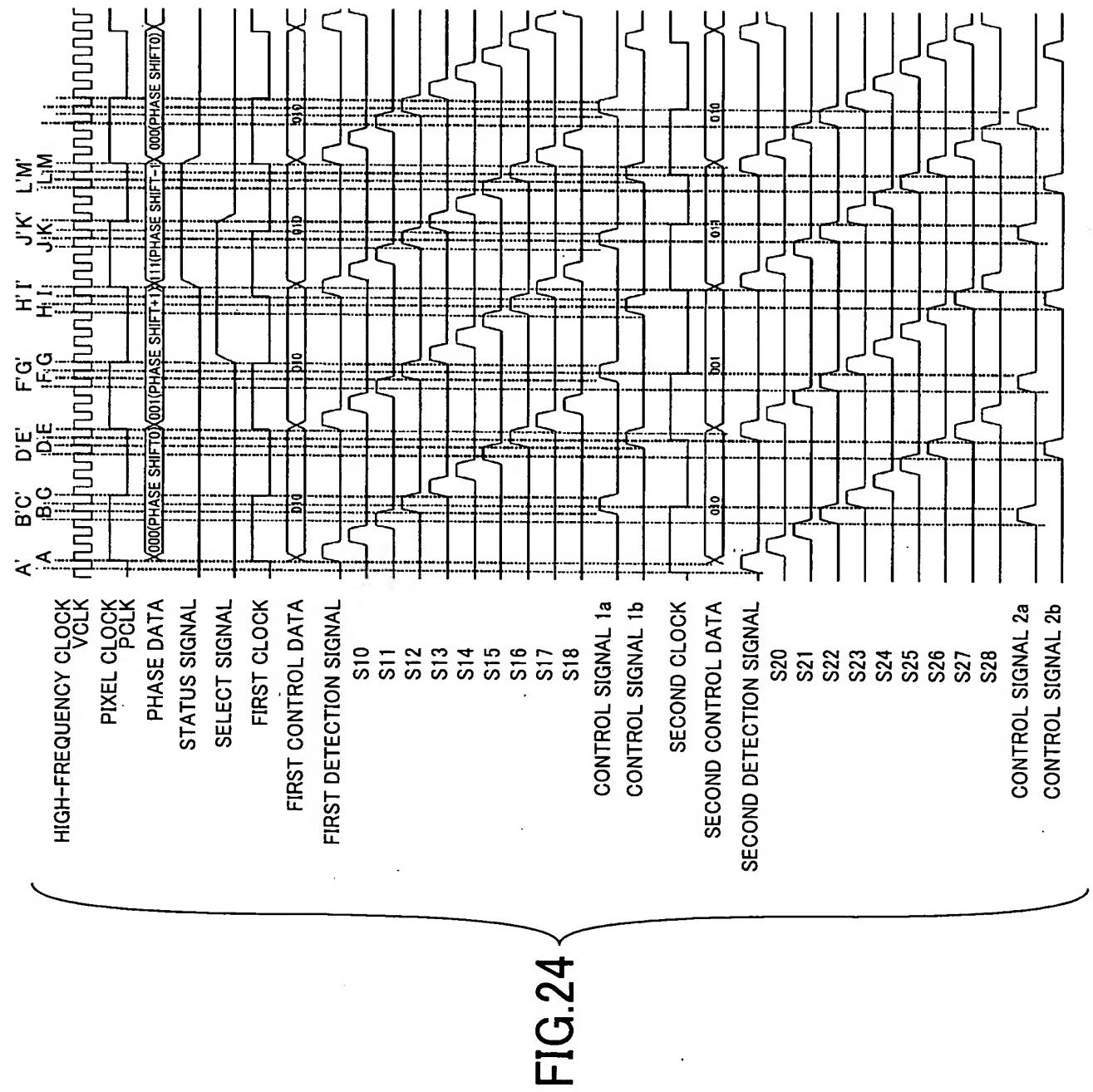


FIG.25

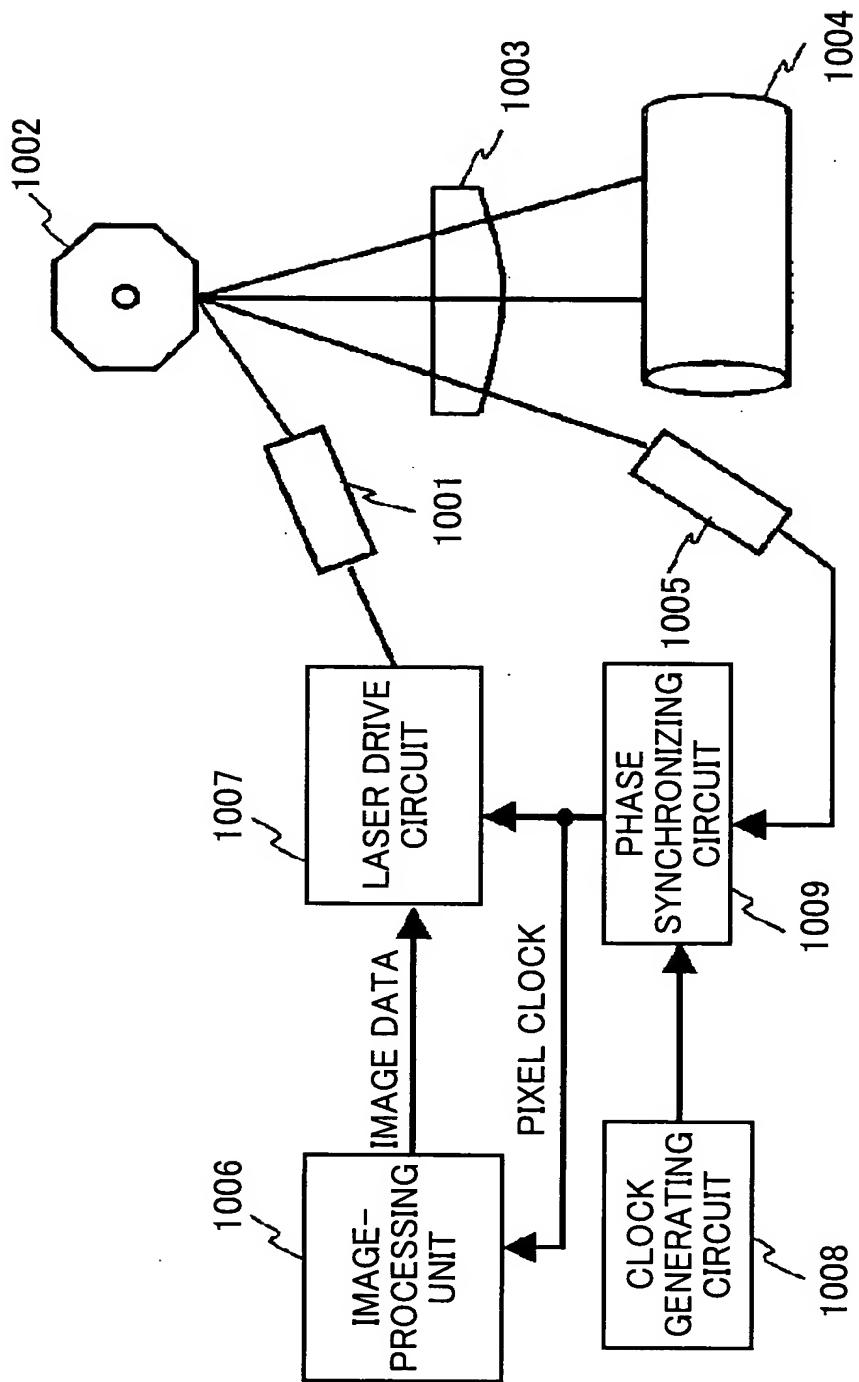


FIG.26

	SHIFT AMOUNT		SHIFT AMOUNT		SHIFT AMOUNT
1	0	1	0	1	0
2	0	2	0	2	0
3	0	3	0	3	0
4	-1	4	0	4	-1
5	0	5	0	5	0
6	0	6	0	6	0
7	-1	7	0	7	-1
8	0	8	0	8	0
9	0	9	0	9	0
10	-1	10	+1	10	0
11	0	11	0	11	0
12	0	12	0	12	0
⋮	⋮	⋮	⋮	⋮	⋮
2395	0	2395	0	2395	0
2396	0	2396	0	2396	0
2397	+1	2397	0	2397	+1
2398	0	2398	0	2398	0
2399	0	2399	0	2399	0
2400	+1	2400	+1	2400	+2
2401	0	2401	0	2401	0
2402	0	2402	0	2402	0
2403	+1	2403	0	2403	+1
2404	0	2404	0	2404	0
2405	0	2405	0	2405	0
⋮	⋮	⋮	⋮	⋮	⋮
4789	0	4789	0	4789	0
4790	0	4790	+1	4790	+1
4791	-1	4791	0	4791	-1
4792	0	4792	0	4792	0
4793	0	4793	0	4793	0
4794	-1	4794	0	4794	-1
4795	0	4795	0	4795	0
4796	0	4796	0	4796	0
4797	-1	4797	0	4797	-1
4798	0	4798	0	4798	0
4799	0	4799	0	4799	0
4800	0	4800	+1	4800	+1

200

201

202

+

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